

Navy Workforce Research & Analysis Conference

ASW Air VAST SH-60B

*Mission Rehearsal Tactical Team Trainer
(MRT3)*

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Presentation Content

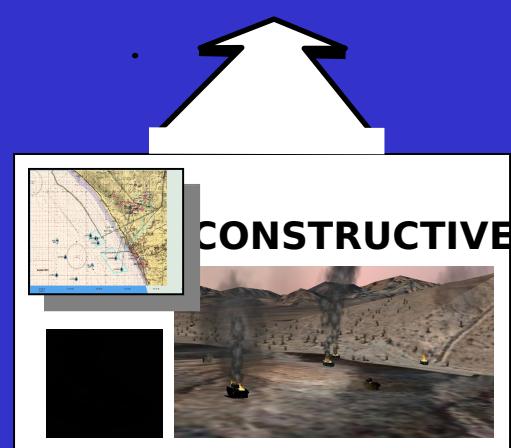
- Simulation Overview
- Selective Fidelity
- Mission Rehearsal Tactical Team Trainer (MRT3)



Types of Simulation

- Live
 - Real people, real equipment conducting training
 - Ships, subs, planes, tanks, individual combatants, etc.
- Virtual
 - Human-in-the-loop, using simulators, integrated in the training event
 - Networked vehicle simulators, combat data center mock-ups, UAV simulators, etc.
- Constructive
 - Simulated forces generated to enhance training
 - Computer generated forces representing ships, planes, tanks, etc.

Common Synthetic Battlespace



Virtual Simulator Development

- Based on a specific intended use
 - Basic training, platform training, graduate level training, Fleet training
 - Procedural skills, tactical team skills
- Fidelity (“faithfulness” to the real world) range
 - High physical fidelity for “entry level” procedural skills training
 - Learn to drive, fly, march
 - High mission space representation fidelity for “expert” Fleet training
 - Maintain combat readiness in operationally relevant environment

Selective Fidelity Simulator Design

- Provides crew station functionality necessary to complete specified team training tasks
 - Example: SH-60B training and readiness event matrix
- Sacrifices physical fidelity
 - Employed by “procedural” experts in vehicle maneuver and weapon system employment skills
- Provides access to operationally relevant synthetic battlespace
 - Includes other “team” members
 - For SH-60B this includes task force ships, other SH-60Bs, P-3C, ASWC
 - Robust adversary forces
 - Geo-specific terrain

Selective Fidelity Test

- Which is the higher fidelity SH-60B for deployed Fleet tactical team training?



or



- The highest physical fidelity
- Very low mission space fidelity

- Other “team” members seldom available
- Limited adversary support
- Range limitations
- Safety limitations
- Weapon employment limits

- Very low physical fidelity
- Very high mission space fidelity

- Includes other “team” members
- Wide range of adversaries
- No range limitations
- Safety not a factor
- No limits on weapon employment

MRT3 Concept

- Develop a networked prototype PC-based deployable Mission Rehearsal Tactical Team Trainer to support integrated / coordinated ASW tactical objectives
 - Employed by expert aircrew ashore deployed
 - A “stick and rudder trainer” for the
- SH-60B Rapid Prototype w/leave-behind
- Leverage existing technologies (from MH-60R development)
- Develop lessons learned to support
 - PMA 205 - Navy Aviation Simulation Master Plan (NASMP) Maritime Federation
 - PEOIWS 1E (BFTT Program Office) - Maritime integration into BFTT and HAWKLINK design compatible with BFTT / NASMP



MRT3 Background

- Funding Sponsors
 - ONR Air VAST program
 - CFFC
- Fleet Sponsor
 - Center of Maritime Dominance / HSL WTUs
- Prove a concept using PC Based Simulation
- Well documented integrated training requirement

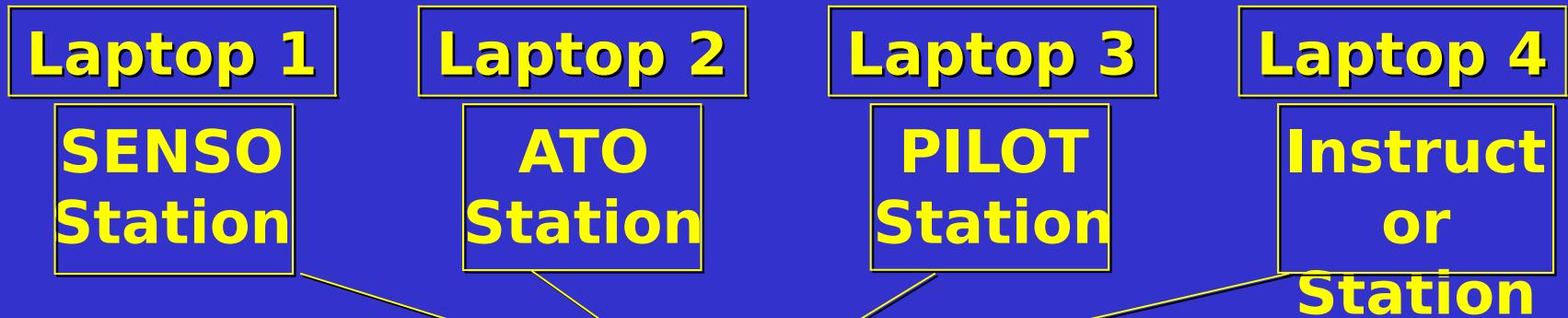


Requirements for Integrated ASW Training

- CNO TASK FORCE ASW
- CPF #1 Warfighting Priority
- CFFC - ***CFFC instruction 3501.3 - fleet training strategy*** "...The 'end state' for fleet training is to provide forces ... trained as they would fight in that specific theater."
- CLF - ***message 032122Z MAY 01*** - ...Import training is essential to maintaining combat readiness.
- FLTASWIP - ***Training working group - #1 issue*** ... authentic air ASW and IUSS trainers fully integrated into BGIE and incorporated into import trainingis the required end state.
- AIR ASWIP
- CNO N74 – ASW STE ICD

PHASE I

MRT3



- **Cognitive Skills**
 - Tactical Decision Making
 - Command and Control
 - Asset Management
 - Sensor / weapons employment
 - Team work



SH-
60B

Phase I

Not a “Stick and Rudder” Trainer

Air Tactics Officer



Sensor Instructor Operator Station



Pilot



MRT3 SH-60B

CMD DEMO Phase I



Fleet feedback

- “Great training value, especially with tactics and crew coordination.”
- “...way to practice real life scenarios...huge loss if it was not delivered.”
- “It’s exactly what we need...extremely high training value.”
- “...can be used anytime, anywhere.”
- “...once integrated, this system will really enhance BGIE participation.”
- “Fantastic and can only get better.”

- “This is an extremely high value training tool that will help us meet our need to do integrated (ASW) training, as well as support our T&R matrix - It’s exactly what we need and the vision is right on track.”

Commodore Webb
COMHSLWINGPAC



MRT3 Development Strategy

Phase III



MH-60R



SH-60F

Phase II



SH-60B

SH-60B



SH-60B

Phase I



BFTT

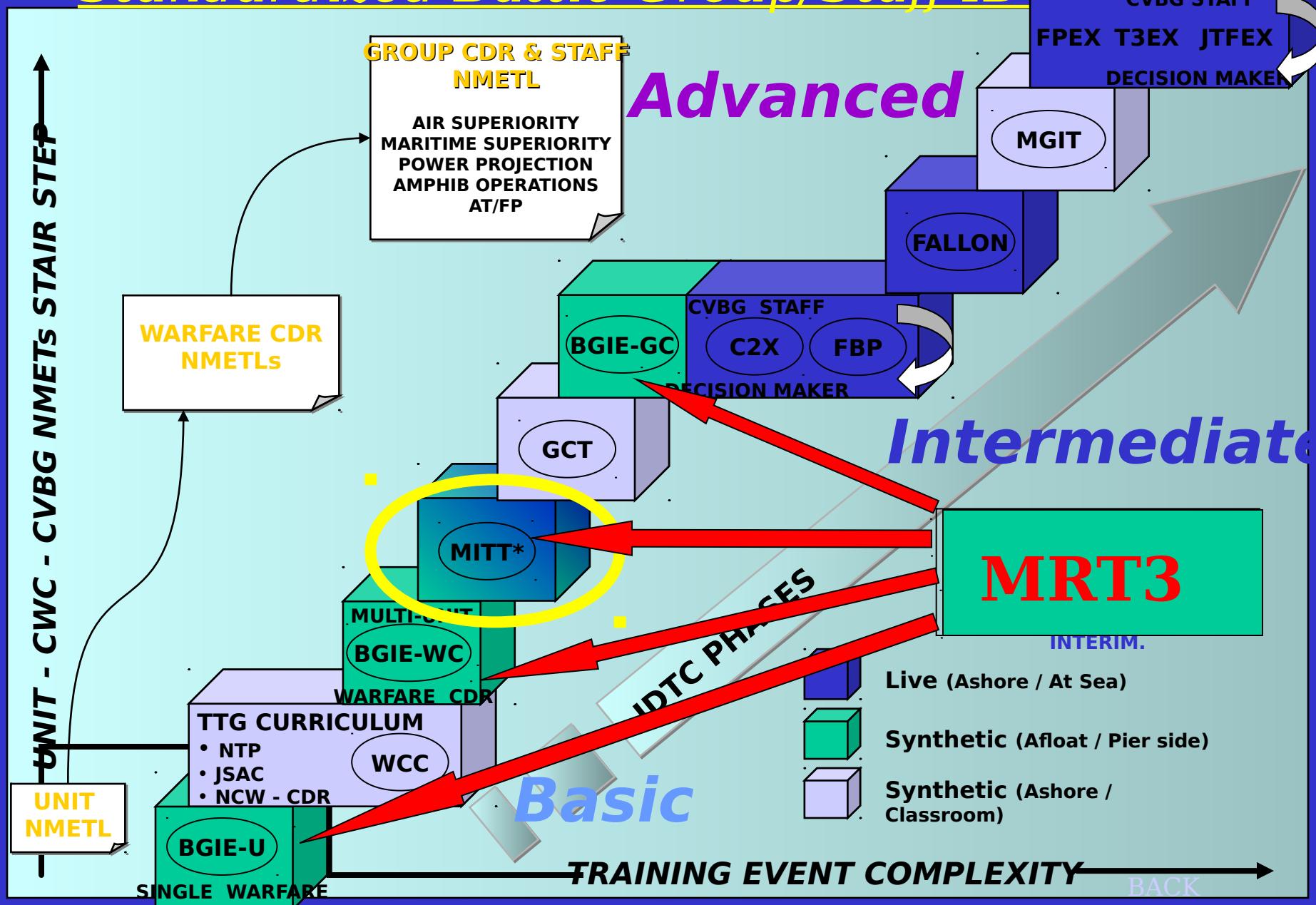
NCTE



P-3C

Where Does it Fit ?

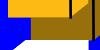
Standardized Battle Group/Staff ID



Where Does it Fit ?

Proposed MITT “Stairstepped”

Approach

-  Ships / Air Underway
-  Stimulated (BFTT/ships pierside)
-  Synthetic (Ashore / Classroom)
-  Classroom

ASW Proficiency

MITT live aircraft /ships pierside (4 days)

Mission Rehearsal
Networked Trainers (5 days)

Mission Planning (5 days) ASWC + SCC

C2X

MITT (3 days)

WOWU (3 days)

MRT3



Increasing BG ASW proficiency early in

UNCLASSIFIED

Phase 1 STATUS

- Successful Sept 03 Deliverable
- Funded for Phase II
 - ONR and CFFC
- POM 06 issue paper submitted to PMA 205
- Detail Planning for Phase II
- Focused on HSL ASW T&R/Integrated Events
 - ASW 101 CZEX; ASW 102 Datum EX; ASW 103 TDT; ASW 104 Pre-TORPEX; M/BGIE

Fleet Input has been key to success

CURRENT STATUS

- Phase II (FY04)
 - Refine SH60B development
 - Network / federate three SH60B's
 - MRT3 re-architecture for deployed reliability/usability
 - Integrate into ITA aka Navy Continuous Training Architecture
 - Provide engineering design recommendations for "Hawklink" compatible with BFTT / NASMP
 - 3 MRT3 device leave behind capability at CMD
- Phase III (FY05)
 - MRT3 architecture improvements
 - Integrating SH60F, P-3C and MH60R platforms

QUESTIONS ?